

Cutting Edge Technology for Connected Health

In a world of constant changes, an unlimited number of data are collected in real-time, over long-term, which allows a better understanding of the human health in extreme contexts.

Carré Technologies (Hexoskin) is involved in wearable and mobile health technologies since 2006. Carré main R&D focus is the development of innovative body-worn sensors for health, mobile, and distributed software for health data management and analysis.

To collect valuable scientific data on astronaut' vital signs, sleep quality and activity levels during their missions, Carré Technologies has developed the Astroskin, the astronaut medical monitoring system which provides vital signs data immediately with sensors embedded in a shirt for use aboard air and space transportation modules.



Value-based Outpatient Care Services

The Hexoskin Connected Health Platform is an end-to-end system designed to minimize user setup time and maximize vital signs monitoring over long periods. The Hexoskin smart garments are a cost effective solution for continuous health tracking.

- Use Hexoskin for long-term patient monitoring
- Detect more health events over time (compared to gold standards)
- Collect continuous and precise real-world evidence between medical visits
- Clinical-grade patient-generated data supports value based healthcare, improving patient adherence to treatments and reducing costs
- Secure solutions integrated to patient Electronic Health Records (EHR)
- Provide value based services
- Provide communication tools between patient and care giver for outpatient care delivery
- Reduce in-patient admissions and healthcare spending

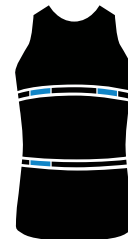
A Unique & Disruptive Approach for Remote Patient Monitoring

Hexoskin took a different approach to current monitoring solutions by developing a smart garment with cardiac, respiratory, and activity sensors embedded in textiles. The system is designed to reduce the frequency of patients travel and allow remote communications:

Benefits for Home Remote Monitoring:

- Improves patient engagement, compliance & satisfaction
- Report physiological data of patient in their daily activities
- Faster communications between patients and the medical staff
- Lightweight & non-invasive solution
- Reusable & Machine Washable
- Designed to fit patients from 6 to 96 years old
- 99.9% Antibacterial Treatment (no odors)
- Custom textile development and sensors integration
- Anonymized data with restricted access
- Secure data storage (private servers and cloud architecture)
- Data encryption

Heart Sensors



1-Lead ECG
256 Hz-12 bits

Metrics:
Heart Rate
Heart Rate Variability (HRR)
Heart Rate Recovery (HRV)
RR intervals

Quality Assessment Channels
Disconnection detection
50-60 Hz noise detection
Saturation ECG signal detection
Movement artifact
RR intervals reliability detection

Respiratory Sensors



Dual Channel respiratory inductance plethysmography (RIP) 128 Hz, 16 bits

Metrics:
Breathing rate
Tidal wave volume (L)
Minute ventilation (L/min)
Breathing inspiration & expiration events

Quality Assessment Channels
Disconnection detection
Noise detection
Baseline change detection

Activity Sensor



3-Axis Accelerometer
50 Hz, 13 bits

Metrics:
Actigraphy
Activity classification
Step counting
Cadence

Quality Assessment Channels
Disconnection detection
Noise detection
Baseline change detection

HEXOSKIN BATTERY

Hexoskin **Classic Device**

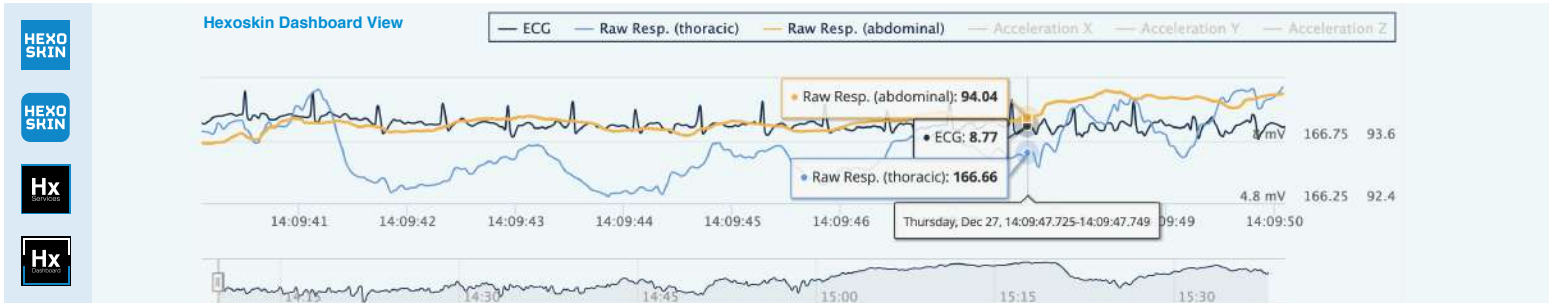
30H+
Of Battery Life
USB Rechargeable

Hexoskin **SMART Device**

48H+
Of Battery Life
USB Rechargeable

Software Solutions & Services

- Hexoskin is an efficient and precise solution to collect quantitative data about patients, every day, in real-life situations, over a long period. Our services allow our healthcare providers to:
- Custom reports & Alerts adapted to therapeutic areas and medical indications
- Visualisation tool and dashboard for patient management
- Support medical staff with protocol definition, training services, set-up & project management
- Custom application development



Cloud Solutions & Services

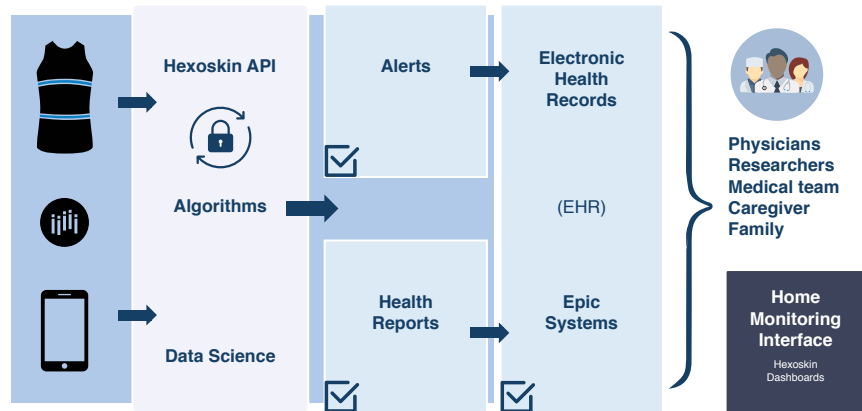
The Hexoskin open platform and API enable Third Party support & interoperability. Our remote monitoring platform processes the rich sensor data collected and delivers summary reports to healthcare practitioners. Data is synchronised to servers for patients' data management and analysis

- Raw and processed data stored securely
- Digital audit trail
- Custom Data Flow integration to Electronic Health Records (EHR)
- 256-bits encrypted communications
- Daily backups and archives
- Remote confidential access to data

Data Science:

Hexoskin provides a wide range of data science and analytics services to support health research and clinical development teams. Hexoskin has an experienced team that can work with your medical staff to analyze external datasets and correlate the data with other data collection tools. Hexoskin data science services include:

- Data Analytics
- Custom Reports
- Custom Alert Development Machine Learning
- Algorithms & AI



Software Solutions & Services

- Project Management
- Conceptual Study Design/Protocol Definition
- Training Services
- Server & Cloud Software Integration (API)
- SDK Development
- Third Party, Ai, Wearables & IoT Integration
- Licensing Solutions
- Application Development
- Hexoskin Technical Support

Cloud Solutions & Services

- Hexoskin Standard Cloud Server
- Dedicated Cloud Servers
- Private Cloud Servers
- Maintenance & Support

Data Science & AI

- Data Conditioning
- Data Mining
- Machine learning & Algorithms Development
- Data Flow Automation
- Custom Reports
- Custom Alert Development
- Statistical Analysis & Modeling
- Graphical Analysis